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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,804	12/26/2001	Toshihiro Yanagi	49021-DIV (70904)	6242
21874	7590	01/15/2004	EXAMINER	
EDWARDS & ANGELL, LLP P.O. BOX 9169 BOSTON, MA 02209			OSORIO, RICARDO	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 01/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/037,804

**Applicant(s)**

YANAGI ET AL.

**Examiner**

RICARDO L OSORIO

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4,5,7,8,13-16,19 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-16 is/are allowed.
- 6) ☒ Claim(s) 4, 5, 7, 19 and 21-30 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 4-5, 7, 19 and 21-30 rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (5,587,772).

Regarding claims 4, 7, 19, 21 and 25, Lee teaches of a display device comprising a plurality of pixel electrodes (col. 3, lines 30-31); image signal lines for supplying data signals to said pixel electrodes (col. 1, lines 14-18); a plurality of scanning signal lines provided so as to intersect said image signal lines (col. 1, lines 14-18); a driving circuit for outputting a scanning signal to actuate said scanning signal lines (it is inherently needed to have a scan line driving circuit), thin film transistors each having a gate, a source, and a drain which are connected with one scanning signal line, one image signal line, and one image electrodes, respectively, said thin film transistors being provided at the intersections of said image signal lines and said scanning signal lines, respectively (see col. 1, lines 14-22); wherein the scanning signal is composed of a gate-on voltage which causes said thin film transistor to attain an ON state and a gate-off voltage which causes said thin film transistor to attain an OFF state (col. 3, lines 40-48); a shift register

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section composed of a plurality of flip-flops which are cascaded and to which a scanning timing control signal is supplied (col. 4, lines 54-58); slope control sections for controlling the slopes of the falls from the gate-on voltage to the gate-off voltage (col. 3, lines 25-48); and switch sections each of which switches the gate-on voltage for the gate-off voltage or vice versa according to an output of each flip-flop (col. 4, line 54-col. 5, line 10); wherein said driving circuit controls the slopes of the falls of the scanning signal based on gate voltage-drain current characteristics of said thin film transistor so that the scanning signal falls at a predetermined slope (col. 3, lines 25-48 and col. 4, lines 26-39).

Regarding claims 22, 26 and 27, Lee teaches of the scanning signal falls forming the slope in the waveform all the way from HIGH to LOW (col. 3, lines 40-50).

Regarding claim 23, Lee teaches of the scanning signal falls forming the slope in the waveform part of the way from HIGH to LOW (col. 3, lines 40-50).

Regarding claims 5, 24, and 28, Lee further teaches that the slope appears in the waveform in an area said thin film transistors are on (col. 4, lines 26-39).

### ***Allowable Subject Matter***

2. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter: Claim 8 is allowable since certain key features of the claimed invention are not taught or fairly suggested by the prior art. Specifically, the slope control section includes a slew-rate control

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element. Because none of the prior art teaches or suggests this element, this feature, taken together with the other limitations of the claims, renders the claims allowable over the prior art.

4. The following is an examiner's statement of reasons for allowance: Claims 13-16 are allowable since certain key features of the claimed invention are not taught or fairly suggested by the prior art. Specifically, in claim 13, a subtracting section which outputs a voltage resulting on subtraction of the slope control voltage from the gate-on voltage during the charging, while outputs the gate-on voltage during the discharge. Because none of the prior art teaches or suggests this element, this feature, taken together with the other limitations of the claims, renders the claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricardo L. Osorio whose telephone number is (703) 305-2248. The examiner can normally be reached on Mon-Thu from 7:00 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at 305-4938.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to: (703) 872-9314 (for Technology Center 2600 only)**


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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ricardo L. Osorio  
Examiner  
Art Unit: 2673

RLO  
January 12, 2004



BIPIN SIMALWALA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600